



Attorney Docket No. 1017-5616 (51017/5616)

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:	:	
Weinstock et al.	:	
	:	
Serial No.: 09/641,820	:	Examiner: Fisher, Michael J.
	:	
Filed: August 18, 2000	:	Group Art Unit 3629
	:	
For: Web Enabled Business To Business	:	
Operating System For Rental Car Services	:	

**DECLARATION OF TIMOTHY WEINSTOCK**

Comes now Timothy Weinstock, and being duly informed of the penalties for perjury, does hereby provide the following declaration in support of the subject patent application.

1. I, Timothy Weinstock, am presently employed by Crawford Group, Inc., the assignee of the subject patent application and the corporate parent of Enterprise Rent-A-Car Company ("ERAC") which uses the invention described in the subject application to conduct its car rental business. During 1999, I served as Project Manager for the development of the inventive automated rental management system described by Figures 1 and 2 of the subject patent application (hereinafter the "ARMS/Web 1.0 system"). As part of my duties as Project Manager, I was directly involved with the conception, development, testing, and commercial implementation of the ARMS/Web 1.0 system.

2. In gathering prior art to submit to the Patent Office, several documents have been brought to my attention that contain dates which are not consistent, but which I can explain.

3. One relevant document being submitted is a task report for "GUI ARMS/400 Development", a copy of which is included herein as Exhibit A (see also Reference FZ listed in concurrently submitted IDS). "GUI ARMS/400" is another name that we used to describe the ARMS/Web 1.0 system. Exhibit A is a print-out of a computer file that I maintained as I performed my work on the ARMS/Web 1.0 system. The columns in Exhibit A that are labeled "Act Start" and "Act Finish" respectively refer to the actual starting date and actual ending date for the corresponding task. Further, I note that the rows in Exhibit A that include bold face headers in the "Task Name" column serve to summarize all of the

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specific tasks listed below those headers and indented relative thereto. On page 2, there is a task ID 76 entitled "Perform In-House Piloting". This task refers to a pilot of the ARMS/Web 1.0 system wherein ERAC employees who worked in a claim center of an insurance company began to use the ARMS/Web 1.0 system to create and manage "actual" rental vehicle reservations. By "actual" I mean that the reservations were for actual customers of the insurance company who intended to use the rental car being reserved. This was the first time that the system was used to process "actual" vehicle reservations. I note that the document indicates an actual finish date of 9/22/00 referring to the actual finish date for the task. I note that this 9/22/00 date certainly contains a typographical error as the ARMS system went "live" well before 9/22/00. It undoubtedly should read 9/22/99 which would make it consistent with the other dates and tasks on this document.

4. With respect to other tasks listed in Exhibit A, I note that the task heading "Production Environment Testing" (task ID 58) refers to ERAC's internal testing of the ARMS/Web 1.0 system's hardware capabilities. No "actual" rental vehicle reservations were processed as part of this task.

5. Another task "Present Prototype to In-House Pilot Personnel" (task ID 72; actual start date of 8/19/99 and actual end date of 8/19/99) refers to a demonstration of the ARMS/Web 1.0 system that was given to the ERAC personnel who were to conduct the pilot that began on August 20, 1999. The purpose of this demonstration was to train the ERAC in-house pilot personnel with respect to using the ARMS/Web 1.0 system. No "actual" rental vehicle reservations were processed as part of this task.

6. A task heading "Customer Rollout and Evolution Planning" (task ID 78) summarizes the tasks listed therebelow. The actual start date referenced by the "Customer Rollout and Evolution Planning" header corresponds to the actual start date for the "Develop detailed GUI/Green Screen Change Management Process" task (task ID 79). While these dates are earlier than August 20, 1999, no "actual" rental vehicle reservations were processed by the ARMS/Web 1.0 system until August 20, 1999.

7. Another document I have been made aware of is entitled "CIO Magazine 2002 Enterprise Value Awards Application"; reference GA in the concurrently submitted IDS, attached hereto as Exhibit B, and it includes a statement that "ARMS/Web ... was piloted to the first users in July of 1999." This date is different from the date contained in the documentation of Exhibit A, August 20, 1999. However, as I was in charge of the ARMS project and participated in its development, I believe the more trustworthy dates are those contained in my Task Report which carefully charts out the course and conduct of the ARMS project.

8. Included herewith as Exhibit C (reference GB in the concurrently submitted IDS) is an article entitled "ARMS/Web is Coming" that I wrote for publication in an internal ERAC newsletter to notify ERAC employees of the emerging ARMS/Web 1.0 technology. I last revised the article of Exhibit C on or after August 13, 1999, as indicated in the footer of the document. The article of Exhibit C includes the statement: "Some Enterprise in-house employees will pilot ARMS/Web starting in mid-August. Based on feedback from the pilot, ARMS/Web is expected to be available to all current and future insurance companies starting in September, 1999." (emphasis added) This statement further convinces me that the July 1999 statement in Exhibit B is incorrect because if piloting had in fact begun in July of 1999, I would not have written on August 13, 1999 that piloting was scheduled to begin in mid-August. As project manager for the ARMS/Web 1.0 system, I was in position to know precisely when piloting of the ARMS/Web 1.0 system began, and based on my review of my records I am convinced that it did not begin in July 1999 but instead began August 20, 1999.

9. Yet another document is included herewith as Exhibit D (reference GC in the concurrently submitted IDS). Exhibit D is a copy of a "GUI ARMS/400 Development Project Approach". I recall this document being last revised around June 1999. This document includes a forecasted timeline for the development of the ARMS/Web 1.0 system indicating that as of June 1999, the ARMS/Web 1.0 system would not be ready for piloting until August 1, 1999. In reality, based on my other documents included herein, this projected piloting ended up being delayed until August 20, 1999. I also note that the forecasted timeline of Exhibit D includes a mid-July 1999 entry of "Run-Time Demo for National Marketing". This milestone refers to a demonstration of the ARMS/Web 1.0 system that was given to ERAC employees. In this demonstration, no actual rental vehicle reservations were processed by the ARMS/Web 1.0 system. The purpose of this demonstration was to familiarize the audience of ERAC employees with the screens of the ARMS/Web 1.0 system and to receive feedback from the audience to help determine whether any further changes to the ARMS/Web 1.0 system screens were needed prior to its rollout.

Having been duly warned that willful false statements and the like are punishable by fine or imprisonment, or both under 18 USC 1001, and may jeopardize the validity and/or enforceability of the subject application or any patent issuing thereon, the declarant submits the foregoing declaration.

  
Timothy Weiristock

1/11/2006  
Date

ID	Task Name	Act Start	Act Finish	Base Start	Base Finish	Duration	% Complete
1	<b>GUI ARMS/400 Development</b>	Tue 6/1/99	NA	Tue 6/1/99	Fri 9/22/00	2752 hrs	92%
2	Development & Production Architecture Definition	Tue 6/1/99	Fri 6/25/99	Tue 6/1/99	Fri 6/25/99	152 hrs	100%
3	Project Start-Up	Tue 6/1/99	Thu 6/10/99	Tue 6/1/99	Thu 6/10/99	64 hrs	100%
4	Negotiate and acquire Jacada for Java	Tue 6/1/99	Thu 6/10/99	Tue 6/1/99	Thu 6/10/99	8 days	100%
5	Develop Project Approach	Tue 6/1/99	Fri 6/4/99	Tue 6/1/99	Fri 6/4/99	4 days	100%
6	Develop Project Charter	Tue 6/1/99	Tue 6/8/99	Tue 6/1/99	Tue 6/8/99	6 days	100%
7	Develop Workplan	Tue 6/8/99	Wed 6/9/99	Tue 6/8/99	Wed 6/9/99	2 days	100%
8	Conduct Planning Session with Business User Community	Thu 6/10/99	Thu 6/10/99	Thu 6/10/99	Thu 6/10/99	1 day	100%
9	<b>Front End/Jacada Development</b>	Tue 6/1/99	Fri 6/25/99	Tue 6/1/99	Fri 6/25/99	152 hrs	100%
10	Acquire Jacada Training	Tue 6/1/99	Fri 6/4/99	Tue 6/1/99	Fri 6/4/99	0.8 wks	100%
11	Configure Jacada development workstations	Tue 6/8/99	Fri 6/11/99	Tue 6/8/99	Fri 6/11/99	4 days	100%
12	Set-up Prototyping War Room	Tue 6/8/99	Fri 6/25/99	Tue 6/8/99	Fri 6/25/99	2.8 wks	100%
13	Define necessary tests for Jacada development lifecycle	Thu 6/10/99	Thu 6/10/99	Thu 6/10/99	Thu 6/10/99	1 day	100%
14	<b>Back End/Client Connectivity Development</b>	Tue 6/1/99	Tue 6/15/99	Tue 6/1/99	Tue 6/15/99	88 hrs	100%
15	Define Development Computing Environment	Tue 6/1/99	Fri 6/11/99	Tue 6/1/99	Fri 6/11/99	72 hrs	100%
16	Define technical configuration for Jacada development	Tue 6/1/99	Tue 6/1/99	Tue 6/1/99	Tue 6/1/99	1 day	100%
17	Define testing environments	Thu 6/10/99	Fri 6/11/99	Thu 6/10/99	Fri 6/11/99	2 days	100%
18	Define Production Computing Environment	Wed 6/9/99	Tue 6/15/99	Wed 6/9/99	Tue 6/15/99	40 hrs	100%
19	Perform machine sizing and capacity planning for Production environment	Wed 6/9/99	Thu 6/10/99	Wed 6/9/99	Thu 6/10/99	2 days	100%
20	Procure new hardware and software as needed for Production environment	Fri 6/11/99	Fri 6/11/99	Fri 6/11/99	Fri 6/11/99	1 day	100%
21	Develop strategy for application Failover	Fri 6/11/99	Tue 6/15/99	Fri 6/11/99	Tue 6/15/99	3 days	100%
22	Develop strategy for scalability & performance enhancement	Fri 6/11/99	Tue 6/15/99	Fri 6/11/99	Tue 6/15/99	3 days	100%
23	<b>Security Requirements Definition</b>	Tue 6/1/99	Tue 6/1/99	Tue 6/1/99	Tue 6/1/99	8 hrs	100%
24	Gather HTTPS internet security requirements for ARMS/400	Tue 6/1/99	Tue 6/1/99	Tue 6/1/99	Tue 6/1/99	1 day	100%
25	Milestone: Defined Security and Production Architecture	Tue 6/15/99	Tue 6/15/99	Tue 6/15/99	Tue 6/15/99	1 day	100%
26	<b>Iteration #1: Vanilla Prototyping</b>	Fri 6/11/99	Wed 6/30/99	Fri 6/11/99	Wed 6/30/99	112 hrs	100%
27	Front End/Jacada Development	Fri 6/11/99	Thu 6/17/99	Fri 6/11/99	Thu 6/17/99	40 hrs	100%
28	Commence ARMS/400 GUI Standards development	Fri 6/11/99	Mon 6/14/99	Fri 6/11/99	Mon 6/14/99	2 days	100%
29	Modify Jacada Knowledgebase	Fri 6/11/99	Tue 6/15/99	Fri 6/11/99	Tue 6/15/99	3 days	100%
30	Perform Automated Conversion	Tue 6/15/99	Wed 6/16/99	Tue 6/15/99	Wed 6/16/99	2 days	100%
31	Perform manual modifications	Tue 6/15/99	Thu 6/17/99	Tue 6/15/99	Thu 6/17/99	3 days	100%
32	Perform initial GUI Quality Assurance Testing	Thu 6/17/99	Thu 6/17/99	Thu 6/17/99	Thu 6/17/99	1 day	100%
33	Perform Integration Testing with Temporary NT Box	Thu 6/17/99	Thu 6/17/99	Thu 6/17/99	Thu 6/17/99	1 day	100%
34	Milestone: Completed Vanilla ARMS/400 Prototype	Thu 6/17/99	Thu 6/17/99	Thu 6/17/99	Thu 6/17/99	1 day	100%
35	<b>Back End/Client Connectivity</b>	Wed 6/16/99	Wed 6/30/99	Wed 6/16/99	Wed 6/30/99	88 hrs	100%
36	Production Environment Development	Wed 6/16/99	Wed 6/30/99	Wed 6/16/99	Wed 6/30/99	88 hrs	100%
37	Configure Temporary NT Box with IIS Software, Provide LAN connectivity	Wed 6/16/99	Wed 6/16/99	Wed 6/16/99	Wed 6/16/99	1 day	100%
38	Configure acquired Production NT Web Server	Tue 6/22/99	Wed 6/30/99	Tue 6/22/99	Wed 6/30/99	1.4 wks	100%
39	Configure Vanilla GUI ARMS/400 Prototype on NT Web Server	Wed 6/30/99	Wed 6/30/99	Wed 6/30/99	Wed 6/30/99	1 day	100%
40	Milestone: Functional Vanilla GUI ARMS/400 Prototype	Wed 6/30/99	Wed 6/30/99	Wed 6/30/99	Wed 6/30/99	1 day	100%
41	<b>Iteration #2: Graphical Enhancement Prototyping</b>	Fri 6/18/99	Thu 8/12/99	Fri 6/18/99	Thu 8/12/99	320 hrs	100%
42	Front End/Jacada Development	Fri 6/18/99	Tue 8/3/99	Fri 6/18/99	Tue 8/3/99	264 hrs	100%
43	Present Vanilla Prototype to Business Users	Fri 6/18/99	Fri 6/18/99	Fri 6/18/99	Fri 6/18/99	1 day	100%
44	Perform User Prototyping Sessions	Mon 6/21/99	Thu 7/15/99	Mon 6/21/99	Thu 7/15/99	19 days	100%
45	Hold Style Guide Prototyping Session with R/GA	Thu 7/1/99	Thu 7/1/99	Thu 7/1/99	Thu 7/1/99	8 hrs	100%
46	Modify fonts, graphics and field positioning	Fri 6/25/99	Wed 7/28/99	Fri 6/25/99	Wed 7/28/99	24 days	100%

ID	O	Task Name	Act Start	Act Finish	Base Start	Base Finish	Duration	% Complete
47	✓	Perform Functional/Integration Testing	Thu 7/29/99	Mon 8/2/99	Thu 7/29/99	Mon 8/2/99	3 days	100%
48	✓	Milestone: Completed Graphically Enhanced ARMS/400 Prototype	Tue 8/3/99	Tue 8/3/99	Tue 8/3/99	Tue 8/3/99	1 day	100%
49	✓	Pilot Preparation - Determine Location/logistics/strategy	Thu 7/29/99	Mon 8/2/99	Thu 7/29/99	Mon 8/2/99	3 days	100%
50	✓	Develop Demonstration for National Marketing	Mon 7/12/99	Thu 7/15/99	Mon 7/12/99	Thu 7/15/99	4 days	100%
51	✓	Milestone: Completed Demonstration for National Marketing	Thu 7/15/99	Thu 7/15/99	Thu 7/15/99	Thu 7/15/99	1 day	100%
52	✓	Develop conceptual GUI/Green Screen Change Management Process	Thu 7/15/99	Sun 7/25/99	Thu 7/15/99	Sun 7/25/99	7 days	100%
53	✓	Back End/Client Connectivity	Thu 7/1/99	Thu 8/12/99	Thu 7/1/99	Thu 8/12/99	248 hrs	100%
54	✓	Production Environment Development	Thu 7/1/99	Thu 8/12/99	Thu 7/1/99	Thu 8/12/99	248 hrs	100%
55	✓	Investigate Production enablement needs	Thu 7/1/99	Mon 7/5/99	Thu 7/1/99	Mon 7/5/99	3 days	100%
56	✓	Configure Graphically Enhanced GUI ARMS/400 Prototype on NT Web Server	Wed 8/11/99	Wed 8/11/99	Wed 8/11/99	Wed 8/11/99	1 day	100%
57	✓	Provide Internet/HTTPS connectivity for NT Web Server	Wed 8/11/99	Thu 8/12/99	Wed 8/11/99	Thu 8/12/99	2 days	100%
58	✓	Production Environment Testing	Thu 7/15/99	Thu 8/12/99	Thu 7/15/99	Thu 8/12/99	168 hrs	100%
59	✓	Prepare for CST Load Test	Fri 7/30/99	Mon 8/2/99	Fri 7/30/99	Mon 8/2/99	2 days	100%
60	✓	Develop criteria for Testing	Fri 7/30/99	Mon 8/2/99	Fri 7/30/99	Mon 8/2/99	2 days	100%
61	✓	Configure CST Load Testing Tool in Benchmark Center	Mon 8/2/99	Tue 8/3/99	Mon 8/2/99	Tue 8/3/99	2 days	100%
62	✓	Configure DEV AS/400 as needed	Thu 7/29/99	Thu 7/29/99	Thu 7/29/99	Thu 7/29/99	1 day	100%
63	✓	Perform System/Performance/Load/Stress Testing	Tue 8/3/99	Fri 8/6/99	Tue 8/3/99	Fri 8/6/99	4 days	100%
64	✓	Perform Performance Tuning and reconfigure NT Boxes	Mon 8/9/99	Wed 8/11/99	Mon 8/9/99	Wed 8/11/99	3 days	100%
65	✓	Perform Integration Testing	Thu 8/12/99	Thu 8/12/99	Thu 8/12/99	Thu 8/12/99	8 hrs	100%
66	✓	Publish Benchmark results	Mon 8/9/99	Tue 8/10/99	Mon 8/9/99	Tue 8/10/99	2 days	100%
67	✓	Enable Tefnet and Security for RARMS	Thu 7/15/99	Wed 8/11/99	Thu 7/15/99	Wed 8/11/99	20 days	100%
68	✓	Milestone: GUI ARMS/400 Prototype ready for Pilot	Thu 8/12/99	Thu 8/12/99	Thu 8/12/99	Thu 8/12/99	1 day	100%
69	✓	<b>Iteration #3: In-House Pilot Prototyping &amp; R/GA Enhancements</b>	Thu 8/5/99	Fri 9/22/00	Thu 8/5/99	Fri 9/22/00	2376 hrs	100%
70	✓	Front End/Jacada Development	Thu 8/5/99	Fri 9/22/00	Thu 8/5/99	Fri 9/22/00	2376 hrs	100%
71	✓	Develop Templates for popups and screens per R/GA input	Thu 8/5/99	Wed 8/25/99	Thu 8/5/99	Wed 8/25/99	3 wks	100%
72	✓	Present Prototype to In-House Pilot Personnel	Thu 8/19/99	Thu 8/19/99	Thu 8/19/99	Thu 8/19/99	1 day	100%
73	✓	Modify Jacada Knowledgebase and graphics per pilot input and R/GA	Wed 8/25/99	Fri 9/3/99	Wed 8/25/99	Fri 9/3/99	1.6 wks	100%
74	✓	Perform User Acceptance Testing and modifications	Mon 9/6/99	Fri 9/10/99	Mon 9/6/99	Fri 9/10/99	5 days	100%
75	✓	Configure Pilot and R/GA Enhanced GUI ARMS/400 on NT Web Server	Wed 9/22/99	Wed 9/22/99	Wed 9/22/99	Wed 9/22/99	1 day	100%
76	✓	Perform In-House Piloting	Fri 8/20/99	Fri 9/22/00	Fri 8/20/99	Fri 9/22/00	56.2 wks	100%
77	✓	Milestone: Completed Pilot and R/GA Enhanced ARMS/Web	Wed 9/22/99	Wed 9/22/99	Wed 9/22/99	Wed 9/22/99	1 day	100%
78		<b>Customer Rollout and Evolution Planning</b>	Wed 8/4/99	NA	Wed 8/4/99	Fri 10/15/99	424 hrs	45%
79	in	Develop detailed GUI/Green Screen Change Management Process	Wed 8/4/99	NA	Wed 8/4/99	Fri 9/10/99	28 days	90%
80	in	Develop Help Desk Support infrastructure	Tue 8/10/99	NA	Tue 8/10/99	Thu 9/2/99	18 days	80%
81	in	Develop strategy for providing Value Added Network (VAN) connectivity	Tue 8/31/99	NA	Tue 8/31/99	Thu 9/2/99	3 days	10%
82	in	Acquire Digital Certificates software and services as needed	NA	NA	Wed 9/1/99	Thu 9/2/99	2 days	0%
83	in	Ongoing screen enhancements per pilot feedback	NA	NA	Wed 9/22/99	Tue 9/28/99	5 days	0%
84	in	Prepare Rollout to Farmers Insurance Group	NA	NA	Wed 9/22/99	Fri 10/15/99	18 days	0%
85	in	Prepare Rollout to Palisades Insurance	NA	NA	Wed 9/22/99	Mon 10/11/99	112 hrs	0%

Craig Kennedy

## CIO MAGAZINE 2002 ENTERPRISE VALUE AWARDS APPLICATION

### System Description

The Automated Rental Management System (ARMS) is a state-of-the-art custom rental management application that has impacted the entire industry by creating the ability to efficiently manage every aspect of the lifecycle of an insurance replacement auto rental, from initiating a reservation and authorizing payment through electronic funds transfer. It measurably simplifies the essential three-way business integration between repair shops, insurance companies and Enterprise Rent-A-Car. Since its inception, ARMS has been used to process nearly 10 million rentals for more than 150 insurance companies throughout North America, including 22 of the top 25 carriers such as GEICO, State Farm, Met Life, Progressive, GMAC, Nationwide and USAA, as well as by more than 2,200 auto body repair shops coast-to-coast.

ARMS consists of four product offerings to meet the highly individualized needs of the insurance companies and repair shops that are Enterprise's business partners:

- **ARMS/Direct** – a direct connection from Enterprise's computer to insurance companies' computers allows adjusters to create their own application screens and send data to Enterprise that is fully integrated to over 4,200 North American rental locations.
- **ARMS/400** – an AS/400 host-based application allows the insurance company to use the ARMS application running on Enterprise's system using a terminal session to create reservations, extend authorizations and process invoices.
- **ARMS/Automotive** – a Web-based product allows repair shops to use a browser to provide updates on the repair status of renters' vehicles.
- **ARMS/Web** – newest and graphical ARMS product features unique Web-based functionality to allow insurance companies to create reservations, extend authorizations and process invoices.

### Cost of Investment

To date, the equipment and software investment for all ARMS applications has been \$11 million and development staff expenses have been \$17 million, for a total combined investment of \$28 million. The annual maintenance and insurance company-requested enhancement costs of the system, including hardware, software and staffing, total approximately \$7.5 million.

### Dates Deployed

- **ARMS/Direct Connection**

The original ARMS connection was developed in the first half of 1992 and was implemented in the first quarter of 1993.

- **ARMS/400**

ARMS/400 development began in the second half of 1995. The System was first implemented in January 1996.

- **ARMS/Automotive**

ARMS/Automotive was developed and deployed in April 1999.

- **ARMS/Web Claims**

Development using the Jacada tool set began in May 1999 and was piloted to the first users in July of 1999. The newest version of ARMS/Web, based on the SUN J2EE architecture, went live in December 2000.

## CIO MAGAZINE 2002 ENTERPRISE VALUE AWARDS APPLICATION

### Technical Profile

- **ARMS/Direct Connection**

The ARMS system consists of a pair of AS/400s acting as a redundant hub. These machines act as a primary and a backup with the data being replicated to the backup machine in a nearly real-time basis using the Vision Solutions OMS product. In the event of a failure, the boxes can switch roles, from backup to primary, in about 15 minutes. The hub receives messages, validates them and funnels them between the business partners (Enterprise and the insurance company) and 13 internal AS/400s running applications for the various geographic regions of Enterprise ("regional AS400s"). The software running on the hub is a custom-developed pipeline that handles multiple transactions simultaneously, while preserving the transmission order. Some insurance companies have integrated the communication into their core claims applications, using ANSI X.12 messages or proprietary communications formats. The messages are sent over a variety of network protocols ranging from SNA to TCP/IP. These companies avoid double entry by having direct application level communication. The X.12 messages received by Enterprise are initially processed by Extol, an EDI translator. In either case, the messages are validated and distributed where they update the application database used by the rental car counter personnel.

- **ARMS/400**

Insurance companies that have not created a direct connection from their applications based on resource decisions use either a 5250-character interface hosted off the hub AS/400s or a Web interface. ARMS/400 is a rental management application developed by Enterprise Rent-A-Car that provides insurance companies with the ability create reservations, extend authorizations, process invoices, and receive notification on insurance claims not yet reported by the consumer.

- **ARMS/Automotive**

The ARMS/Automotive component is an HTML-based Web interface hosted on six Sun servers. Three servers run the Apache Web server and three run the Dynamo application server. The application servers use BEA's Jolt connector to call Tuxedo services running on the regional AS400s. The Tuxedo services are used to get the transactional data and an Informix database is used to store user and administrative data. This allows the various body shops to electronically send repair status update reports on vehicles at their locations to Enterprise, with a pass through to insurance companies.

- **ARMS/Web**

The ARMS/400 application interface was ported to the Web using a product called Jacada that runs on Windows NT with Microsoft Internet Information Server. It downloads an applet in the users' Web browser and converts this GUI interface into a 5250 terminal connection behind the scenes, as well as manages presenting the correct window to the user based on the contents of the 5250 screen being presented. This gives insurance companies a wide variety of connectivity options for allowing their employees to interact with Enterprise.

Since the ARMS/Web Jacada release in 1999, Enterprise has since re-constructed the application based on the Sun Java 2 Enterprise Edition (J2EE) standards to provide for improved manageability, scalability and flexibility. The Web servers run the Apache Web server and BEA WebLogic is used on the application servers. The application servers use BEA's Jolt connector to call Tuxedo services running on the AS400.

### Technical Excellence

Enterprise not only has been on the leading edge of technology with each evolution of the ARMS product, the company has demonstrated its commitment to continuously improve applications to better serve customers. In

## CIO MAGAZINE 2002 ENTERPRISE VALUE AWARDS APPLICATION

In addition to maximizing the latest technologies, Enterprise has leveraged existing technology and continued to make significant investments in ARMS applications. One of the hallmarks of ARMS is its flexibility to accept change.

- In 1993, Enterprise introduced ARMS/Direct Connection, the industry's first electronic direct connection to a major insurance company customer. With this link, insurance adjusters could enter claims and car rental management information directly into their claims handling system, as well as forward rental transactions to Enterprise. By using a proprietary messaging format, the electronic connection immediately saved time for adjusters by significantly reducing the number of phone calls required for each rental transaction.
- In July 1996, two major enhancements to ARMS were introduced. First, Enterprise built an X.12 EDI connection using the Extol translator package to State Farm. Its messages subsequently formed the basis for the Collision Industry Electronic Commerce Association (CIECA) standard for automotive replacement rental transactions. Enterprise also built a host-based terminal user interface for the application that allowed insurance companies that were unable to implement the expensive electronic connection to communicate with Enterprise. As a result, insurance companies could use an application on their desk and eliminate the many phone calls required to manage the car rental process.
- In 1997, a PC application, ARMS/Automotive, was created to allow automobile repair shops to download the list of renters' vehicles being repaired at their shop and provide timely repair status updates to Enterprise. The application also allowed the shop to send the repair status updates back to Enterprise and the adjusters. This information cycle informed the adjuster about progress being made on the repair and specifically identified the potential for extending the length of the rental. In order to advance the product and provide improved capability and scalability, the application was subsequently rewritten as a pure Web application using Active Server Pages.
- In 1999, in response to customer demand and in consideration of people in the workplace having greater access to the Internet, the ARMS/400 application was ported to the Internet using Jacada, a product that converted a 5250 terminal screen into a Web-based Java application. This product was chosen to provide the greatest speed to market. The resulting product, ARMS/Web, is patent pending following recent approval from the U.S. Patent and Trademark Office of the Department of Commerce.
- Most recently, ARMS/Web was rewritten in 2000 as an Enterprise Java Beans-based Web application, running under BEA WebLogic Java Application Server.

### Industry Standing

Enterprise Rent-A-Car was the first car rental company to develop an automated reservation system that has the flexibility to communicate directly with branch locations and to adapt to various workflows at different insurance companies. It is significant to note that Enterprise collaborated with insurance adjusters to develop ARMS in order to meet the needs of insurance adjusters. Although competitors have attempted to duplicate the system, no one has been able to compete with the unprecedented flexibility and technical scope of Enterprise's ARMS initiative. Since ARMS was introduced, it has been used to process nearly 10 million insurance replacement rentals for more than 150 insurance companies throughout North America, including 22 of the top 25 carriers, and is currently the most widely used system in the marketplace. In addition to insurance companies that are using various versions of ARMS, the mainframe system (ARMS/400), or the Internet, over 2,200 repair shops also are using ARMS/Automotive.



## CIO MAGAZINE 2002 ENTERPRISE VALUE AWARDS APPLICATION

Not only does using ARMS consistently reduce the insurance replacement rental cycle by one-half day, it significantly reduces the number of telephone calls between the insurance company, repair shop and rental car company, estimated to be 8.5 phone calls per rental, at an aggregate cost of \$1 to \$3 per call. This equates to a savings of more than \$36 million. Additionally, ARMS reduces the rental cycle by one-half day, saving approximately \$13 per transaction for an average \$26 per day car rental. This savings, multiplied by 350,000 transactions each month for 12 months, produces an annual estimated savings to the insurance industry of approximately \$54.6 million in reduced rental car costs. A similar amount of savings/benefits can be recognized as "soft cost" savings via significant process efficiencies.

Long term savings  
 Rental cycle reduction  
 Savings \$ - 2 200 000 50 500 000  
 754.4

## CIO MAGAZINE 2002 ENTERPRISE VALUE AWARDS APPLICATION

After creating an entire industry specializing in renting replacement cars to local consumers in need of vehicles while theirs are being serviced or repaired, Enterprise Rent-A-Car has remained committed to its mission to consistently exceed customer expectations for service, quality, and value. By also creating the only proven technology to effectively manage every aspect of the lifecycle of an insurance replacement auto rental, from initiating a reservation to authorizing payments or extensions and facilitating electronic funds transfer, Enterprise's IT initiatives support the company's founding principle: Satisfied customers drive business growth.

Developed by Enterprise, the Automated Rental Management System (ARMS), uses customized electronic messaging to increase internal and external operational efficiencies while reducing severity via a three-way business integration between auto body repair shops, insurance companies and Enterprise. In addition to improving communications between auto body repair shops and insurance companies, ARMS is responsible for making the rental cycle one-half day shorter, saving approximately \$13 per transaction based on an average \$26 per day car rental. Not only does ARMS save the insurance industry money, but also makes the jobs of adjusters more efficient through its reporting capabilities. Real-time reporting, along with closed rental reporting, offers the optimum flexibility to the insurance customer. Real-time "open rental" reporting helps the insurance company manage the repair process during the rental and "closed ticket" reporting helps identify trends, including average cost per transaction, average rental length, and total gross costs.

Enterprise's commitment to developing and constantly upgrading ARMS technology not only solidifies the company's strong competitive advantage within its industry, it also reinforces the company's leadership in the local rental replacement car industry.

ARMS is responsible for a number of significant contributions to the insurance and collision repair industries, as well as within Enterprise Rent-A-Car, including:

- Enhanced Quality Of Service, Competitive Advantage and Efficiencies
- Business Growth and Expanded Market Opportunities
- Improved Operations and Internal Communications

### Quality of Service, Competitive Advantage and Efficiencies

When a driver who has been in an accident calls his or her insurance company, the insurance company representative files a claim and a reservation is immediately started via ARMS. The system also enables electronic funds transfer and provides electronic reporting to the insurance company to support the claims processing and expense management.

ARMS has a proven track record of managing loss adjustment expenses and reducing severity. Based on the fact that with ARMS, the rental cycle is one-half day shorter – saving approximately \$13 per transaction for an average \$26 per day car rental, multiplied by 350,000 transactions each month for 12 months – the total annual estimated savings to the insurance industry is approximately \$54.6 million in reduced rental car costs, and between 36 million and 107 million fewer phone calls.

Since ARMS is composed of modules that can easily be customized, insurance companies can choose their method of connecting to ARMS. If the insurance company is standardized on a certain EDI format, Enterprise will customize its own data stream so that the insurance company does not need to make many changes or invest in additional IT. ARMS' flexibility also enables insurance companies to work with consumers according to their

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company's own business processes.

A unique feature of ARMS is the technical support provided by Enterprise, which invests the necessary time and resources to dispatch knowledgeable employees—armed with laptops—to insurance company claims centers for training on how to use ARMS to manage the car rental component of claims.

ARMS/Automotive is a three-way electronic data connection between repair shops, insurance companies and Enterprise that enables repair shops to automatically update and send vehicle status reports directly to insurance companies online. The primary purpose of the update is to allow the adjuster to determine the status of repairs in order to anticipate when work will be completed so the vehicle can be returned to the driver who is using a rental car. As repair shop owners know only too well, the amount of time spent on the phone with an insurance company and rental car company to complete authorizations for repairs and replacement rentals can take a significant amount of time. However, by using ARMS/Automotive for status updates, repair shops can realize cost and time savings by reducing the number of phone calls with insurance and rental car companies and providing more quality time to devote to repairing a customer's car. In addition to reducing phone calls and alleviating paperwork, the simple-to-use system improves the relationship between repair shops and insurance companies by making it faster and easier to file and track claims reports, and reduces the possibility of the consumer incurring unnecessary additional rental costs, which ultimately impacts their satisfaction with the repair process.

ARMS/Web is a free Web-based online extension of the communication system created to simplify the rental management process and better manage claims. As an Internet-based connection, insurance carriers can link directly to Enterprise to exchange data electronically via the Internet, 24 hours a day, seven days a week. In addition to being convenient for adjusters, ARMS/Web is instantaneous, specific and accurate. Whether the insurance company is dealing with an adjuster-initiated rental, customer-initiated rental, or extending a rental, the ARMS/Web system allows the adjuster to easily communicate with Enterprise via the Internet from their desktop computer, while maintaining total control over the entire rental transaction, without using the telephone.

### Business Growth and Expanded Market Opportunities

Enterprise derives a significant portion of its revenue from insurance company referrals. Since 1998, the percent of insurance business coming to Enterprise through its Automated Rental Management System (ARMS) has grown from 40% to more than 75%.

Enterprise Rent-A-Car has used its Automated Rental Management System (ARMS) to process nearly 10 million rentals for more than 150 insurance companies, including 22 of the top 25 U.S. carriers, such as GEICO, State Farm, Met Life, Progressive, GMAC, Nationwide, and USAA.

In the past, insurance companies had to make multiple phone calls to repair shops to monitor the progress of each car. Now, ARMS handles this for claims adjusters by sending repair shops "packaged" electronic communications that query for updates on one or multiple cars. As a result, claims adjusters spend less time monitoring repairs and send Enterprise more business.

Since the system's introduction, more than 2,200 auto body repair shops throughout North America have begun using the Automated Rental Management Systems (ARMS) Automotive Web application developed by Enterprise Rent-A-Car.

ARMS/Automotive was developed in conjunction with standards for electronic commerce developed by the Collision Industry Electronic Commerce Association (CIECA), the trade association created to assist with developing standardized technology implementation solutions for repair shops, insurers, and rental car agencies.

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When Geico Direct began integrating its systems with ARMS more than three years ago, Enterprise made dozens of changes to its system to accommodate Geico's management reporting model. Since it began using electronic funds transfer with Enterprise last year, Geico has completely eliminated the need to print paper checks for Enterprise. Now, all the Geico data that Enterprise captures is transferred back to Geico's data warehouse.

Always committed to providing customers with exceptional service and efficient business tools, Enterprise plans to continue work with the insurance industry to develop additional improvements and enhancements to meet the ever-increasing needs of insurance companies.

### Improved Operations and Internal Communications

In addition to featuring simple navigation, fast interconnectivity, and customized reporting for individual adjusters, ARMS/Web is designed to provide instant access and instant control of the entire rental claims process. Real time management of data by claim center, by adjuster, and by repair shop is a significant benefit to insurance companies. It also saves valuable time by allowing adjusters to reserve vehicles, obtain authorizations and billing extensions, prepare invoices and confirm reservations electronically. Other advantages of Enterprise's ARMS/Web include:

- **Electronic Billing** – computerized billing provides electronically audited rental invoices as soon as the rental contract is closed, as well as electronic funds transfer or bulk payment options. By receiving and remitting bills electronically, or through a bulk payment system, insurance companies can dramatically reduce heavy draft costs.
- **Auditing** – built-in auditing capabilities with computerized documentation of all correspondence, including extensions and termination dates, dramatically reduces possible billing errors by utilizing "protected fields." This prevents the rental car branch from exceeding adjuster-authorized amounts.
- **Management Reporting** – real time reporting along with closed rental reporting offers the optimum flexibility to the insurance customer. Real time "open rental" reporting helps the insurance company manage the repair process during the rental and "closed ticker" reporting helps identify trends, including average cost per transaction, average rental length, and total gross costs.
- **Systems Assistance** – a personally manned help desk available to answer questions and offer assistance, 6 a.m. to 6 p.m. Monday through Friday, Central Daylight Time.

ARMS/Automotive greatly enhances service standards and cost-effective delivery in repair shop-insurance company relations by allowing repair shop employees to automatically update and send vehicle status reports via computer or Internet, without having to spend superfluous time on the phone or additional money developing their own system. By making it faster and more convenient to file repair status updates, repair shops not only benefit from having a better relationship with the insurance companies, the improved communication can also favorably impact the shop's status with the insurance company as a "preferred provider." The online ARMS/Automotive process works as follows:

- **Sending requests to repair shops** – Each morning, Enterprise e-mails the repair shop notifying them to log on to ARMS/Automotive online to update requests from insurance companies.
- **Updating requests** – The repair shop personnel simply log on to ARMS/Automotive, update information about the vehicle, and send it to Enterprise. The information also can be electronically forwarded to the insurance company at the same time.
- **Verifying that requests have been updated** – Once the repair shop logs on to ARMS/Automotive to receive requests for vehicle status updates, the insurance company receives an electronic confirmation.
- **Follow-up** – If a repair shop has not updated its requests electronically, a person at Enterprise will call to remind them.

### ***ARMS/Web is Coming*** by Tim Weinstock, OCEAN Program Manager

Over the past three years, the ARMS/400 application has played a significant role in contributing to Enterprise's incredible growth in the rental insurance replacement market. Currently, over 13,000 Insurance Adjustors utilize ARMS/400 for rental management and the workflow improvements it enables Adjustors. These numbers continue to grow dramatically.

Since the application's inception, Enterprise has utilized ARMS/400 in its marketing efforts to retain current and attract new insurance replacement trading partners. ARMS/400 has served as the "technological edge" of ERAC over its rental insurance replacement provider competition.

Enterprise will continue to retain this advantage by offering its customers the next wave of technological innovation with the development of ARMS/Web. The new application will provide Insurance Adjustors with an Internet accessible, graphical user interface (GUI) which utilizes the same functionality available in the current "Green Screen" ARMS/400 application.

#### **Why go GUI and why the Internet?**

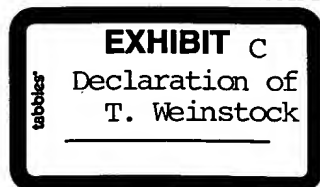
With the rapid advancement and emergence of computer and telecommunication technologies over the past few years, the expectations and demands of ERAC's current and prospective insurance replacement trading partners have risen in accordance. The most apparent of these new expectations and demands are specifically focused in two areas:

- ***Graphical User Interfaces*** - with its potential to enable improved ease of use, intuitiveness, attractiveness, and workflow over the traditional green screen counterparts.
- ***Telecommunications*** - with its ever-improving secure connectivity offerings which provide for ease of set-up and increased flexibility for communication via the Internet, Intranet, Satellite, Virtual Private Networks (VPN) and Value Added Networks (VAN).

Many of ERAC's current insurance company customers, and many of its prospective customers, are asking for an ARMS/400 application with a GUI and multiple connectivity options - including connection via the Internet. It is speculated that ERAC's rental insurance replacement competitors will soon deploy systems similar in functionality to ARMS/400, with the addition of these advanced technological capabilities.

#### **How are we doing it?**

Because of the urgency to develop and deploy an Internet-based, graphical system to our insurance customers, the OCEAN Program researched various software tools that could aid in bringing ARMS/Web to market in a qualitative and timely manner. The primary criteria for tool selection was based on the tool's ability to serve as a quick to market, medium term solution - until ARMS/400 is redesigned to accommodate multiple types of user interfaces and communication mediums.



The OCEAN Program selected Jacada for Java as the tool for development of ARMS/Web. Jacada has the ability to quickly generate Java clients for AS/400 applications without requiring any changes to AS/400 based application, i.e. ARMS/400. Jacada utilizes a rules-based automated generation technology to extend AS/400 based green screen interfaces to the modern graphical client features our Insurance Adjusters expect from today's applications.

Using Jacada's KnowledgeBase technology, AS/400 host application screens are automatically analyzed and converted to Java graphical clients. The new Java clients have all the functions inherent to graphical applications - pull-down menus, push buttons, combo boxes, folders and tabs, tables, windows in windows, context-sensitive help, etc..

The Jacada tool generates Java source code based on rules that the developer defines in the Jacada KnowledgeBase and the original AS/400 host screens. The generated classes and objects can be modified to add functionality, integrate with other data sources, and link to other Web applications.

Working closely with Computing Services via the Project Office, an Internet architecture for ARMS/Web was developed and constructed. Highlights of this architecture are as follows:

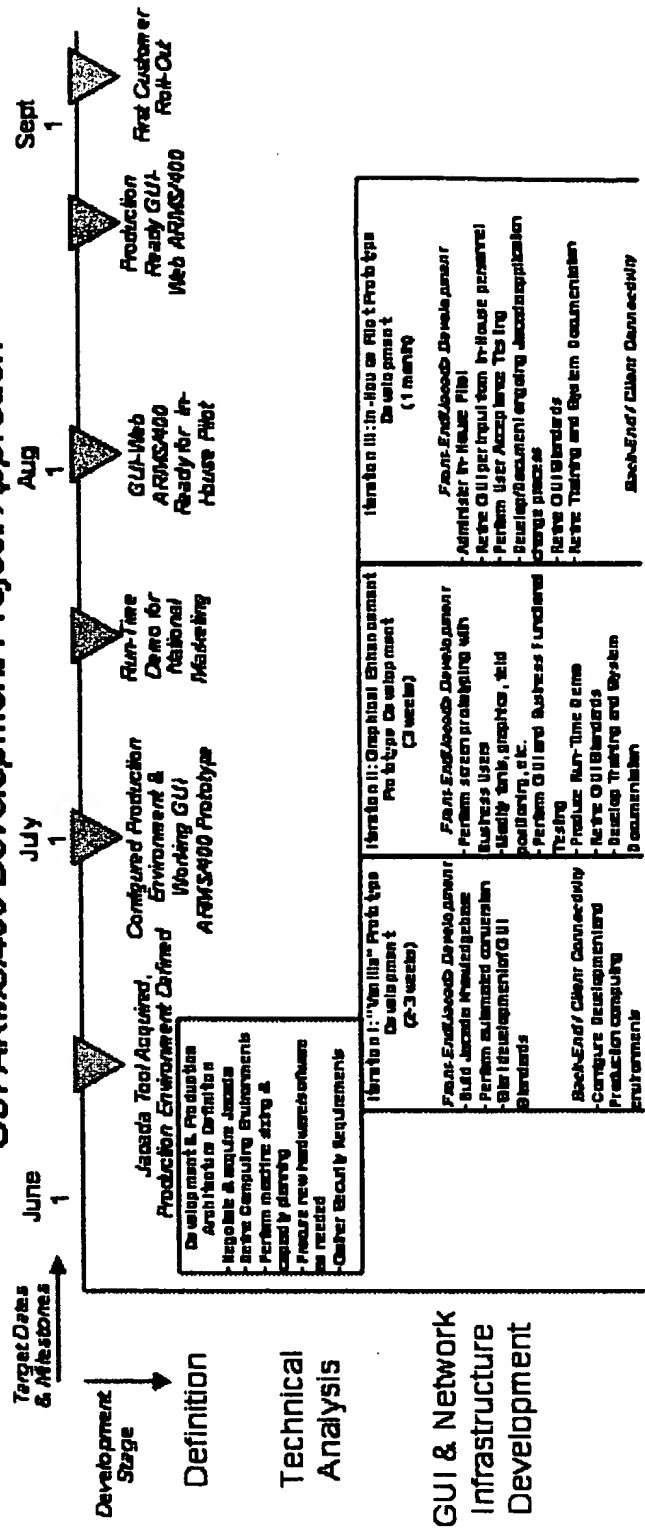
- The AS/400 machines will continue to host the ARMS/400 application logic.
- The Jacada Server and Windows NT IIS Web Server will run on two redundant NT servers to accommodate performance and failover requirements.
- Cisco's Local Director product will intercept all connections from the Internet and equalize their distribution to the ARMS/Web NT servers - it will effectively "balance" the load between the two NT servers for optimal response times for the Insurance Adjustor.
- The Local Director product also provides a failover mechanism in case one of the NT servers becomes inoperative.

**What will be in ARMS/Web's initial roll-out and when will it be available?**

ARMS/Web will have all of the business functionality provided by the current ARMS/400 application, with the addition of all the graphical functions typically found in other GUI-Windows applications. For the pilot and initial product offering of ARMS/Web, connectivity will be provided over the public Internet. Mass availability and low set-up costs for the client computing environment make the Internet an optimal connection medium for the scope of this initial roll-out. Additional connectivity options such as VPNs, VANs, and Satellite will be developed as insurance trading partner needs arise.

Currently, Enterprise has employees working "in-house" at multiple insurance companies. The Enterprise in-house employee uses ARMS/400, just as the Insurance Adjustor does to manage replacement rentals for the insurance company's customers. Some Enterprise in-house employees will pilot ARMS/Web starting in mid-August. Based on the feedback from the pilot, ARMS/Web is expected to be available to all current and future insurance companies starting in September, 1999.

# GUI ARMS/400 Development Project Approach



**EXHIBIT D**  
Declaration of  
T. Weinstock

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